



Waka Waka Power Plus Teardown

This is a teardown of the Waka Waka Power+ portable solar powerbank, light and charger.

Written By: Harm



INTRODUCTION

This teardown guided is meant to explain how to take the Waka Waka apart without damaging the components.



TOOLS:

- [Phillips #1 Screwdriver](#) (1)
 - [Flathead 3/32" or 2.5 mm Screwdriver](#) (1)
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Step 1 — Unboxing



- It's not just a box, it's also a use guide.

Step 2 — Undo the screws



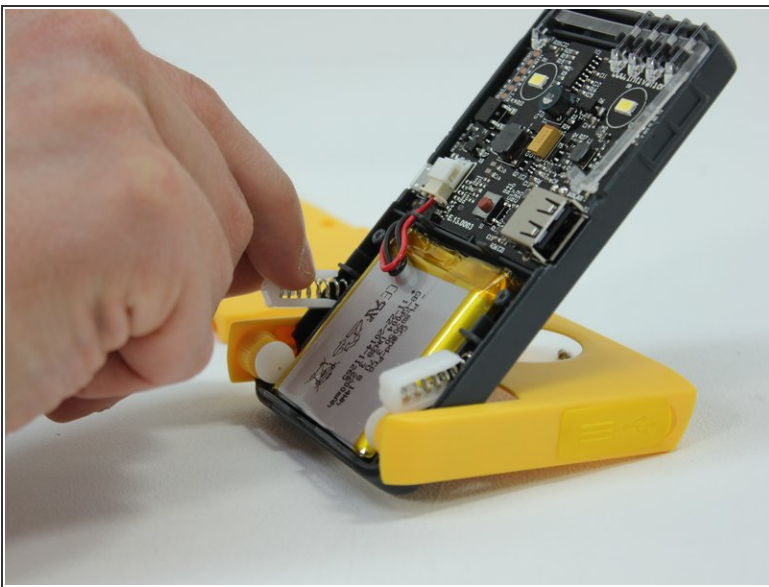
- The Phillips screws are hidden underneath silicone covers.

Step 3 — Pry it open and remove the front cover



- The cover is a pain to get open. The amount of force needed is quite high.
- The hinges are spring loaded. They tend to fly away when tension is relieved.

Step 4 — Remove the flip cover



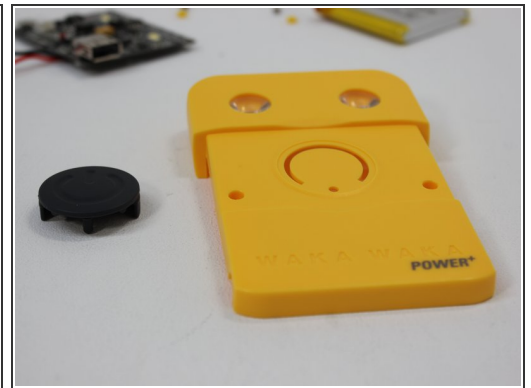
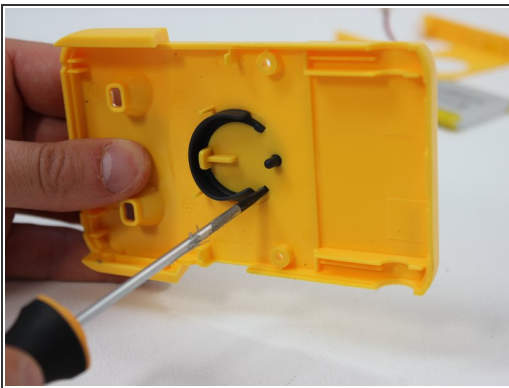
- As said in the previous step, the springs tend to fly away!

Step 5 — Remove the light conductor



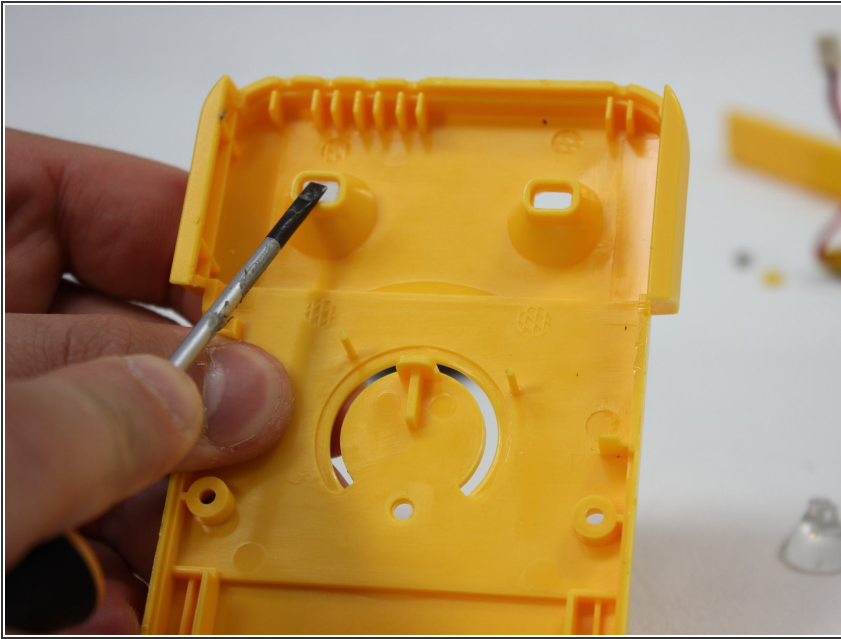
- This can simply be pulled out once the covers are removed.

Step 6 — Pry out the button



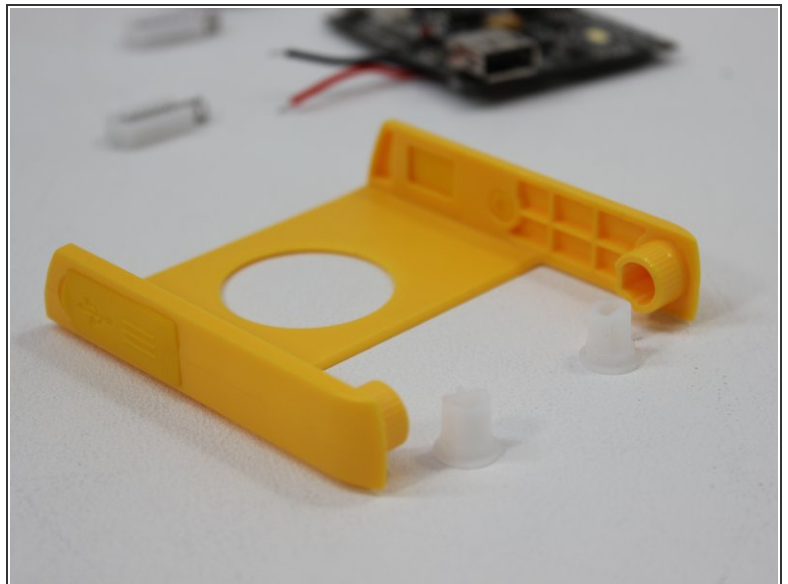
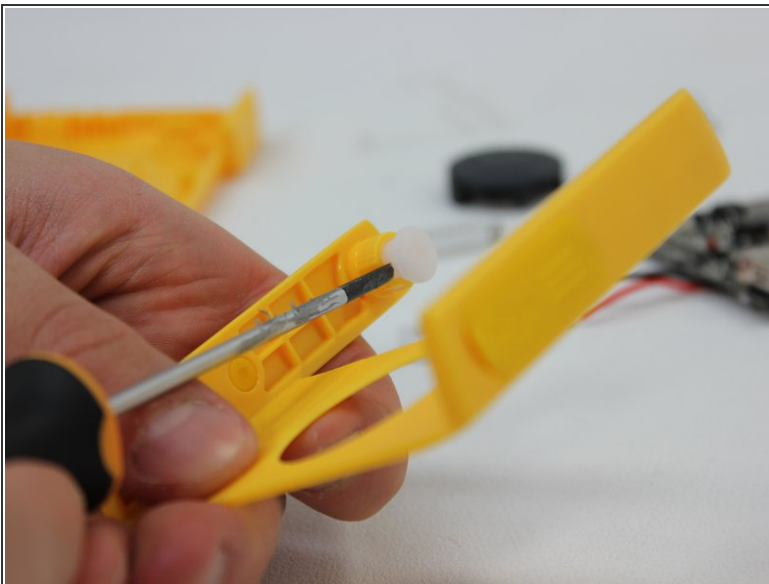
- A screwdriver may not be the ideal tool for this job, a less sharp object might be better to avoid damage to the silicone.

Step 7 — Remove the lenses



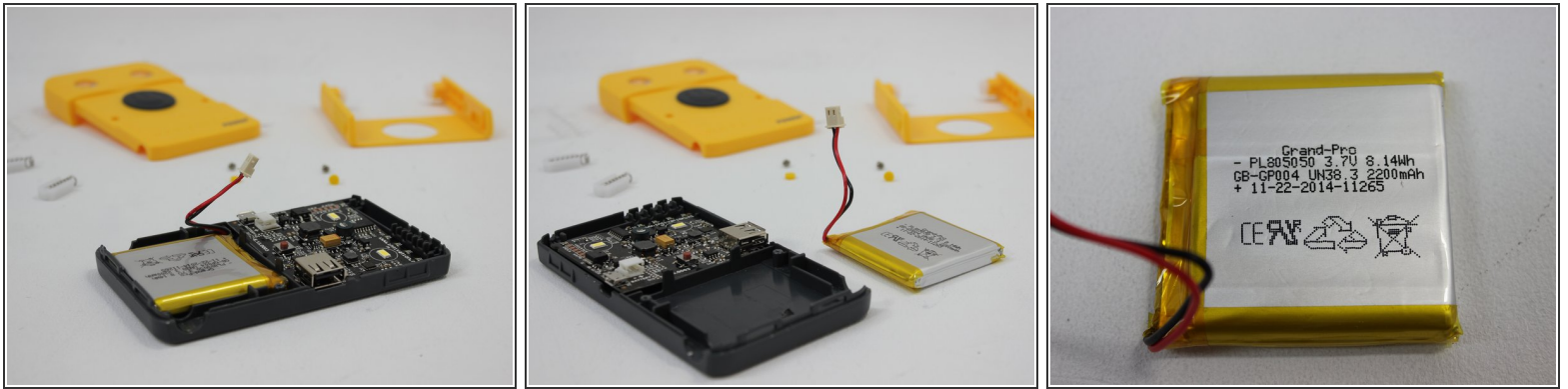
- Use the flat side of the screwdriver to avoid damage to the lens.

Step 8 — Remove the hinges



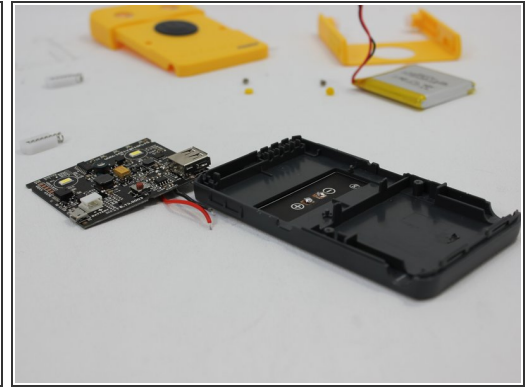
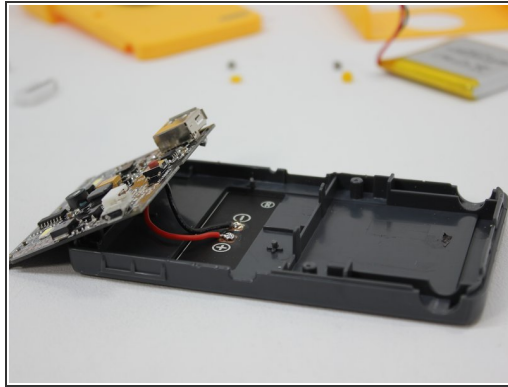
- You will stab yourself with the screwdriver while doing this.
- The white parts of the hinges will very happily fly away and get lost.

Step 9 — Remove the battery



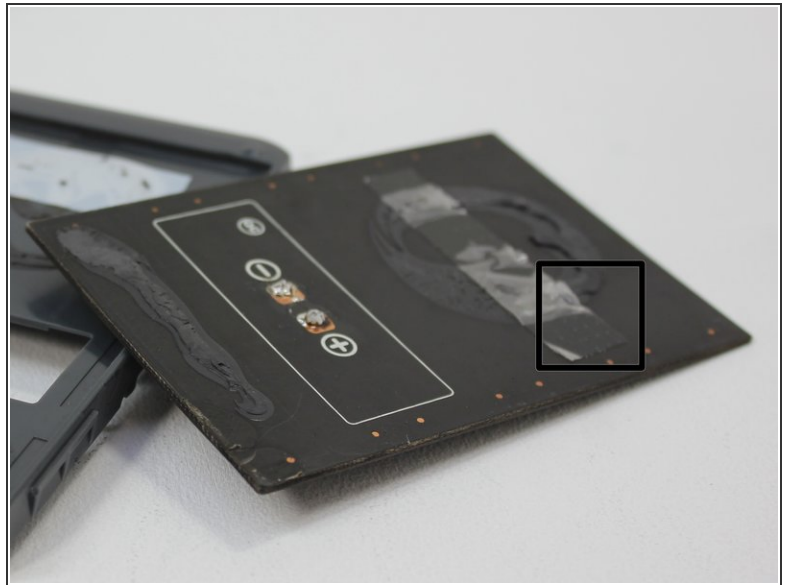
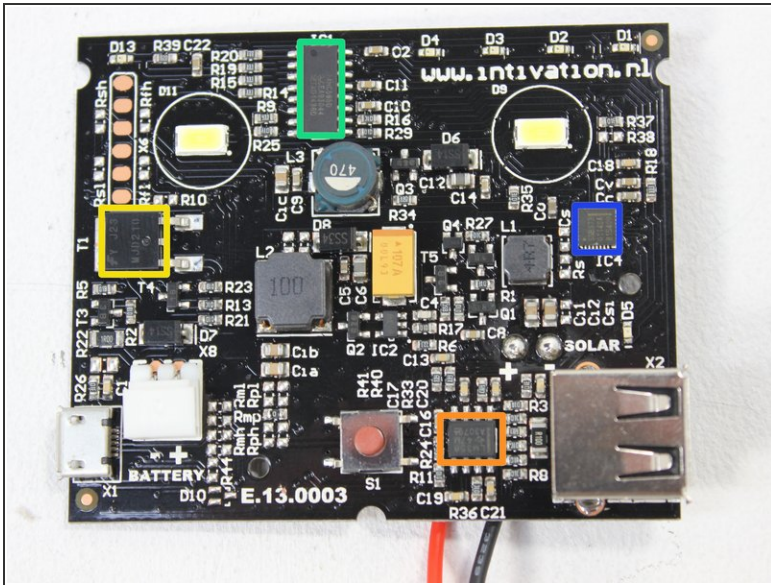
- Pull out the connector, be careful and only pull the connector and not the wires to avoid damaging them in the process.
- The battery is fixed in place with double sided tape. Make sure not to bend and damage the battery when taking it out.
- Text on the battery:
 - Grand-Pro
 - - PL805050 3.7V 8.14Wh
 - GB-GP004 UN38.3 2200mAh
 - + 11-22-2014-11265

Step 10 — Remove the PCB



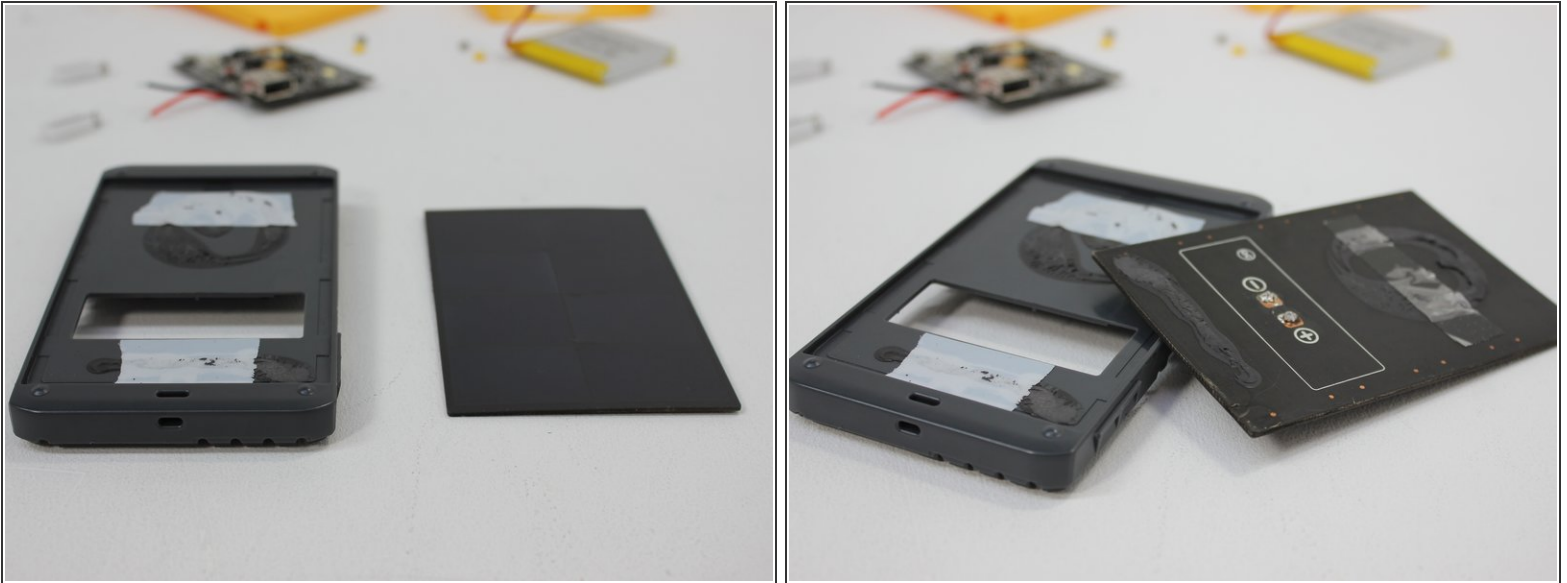
- There are two plastic pins holding the PCB in place. You will have to break them.
- Undo the connection between the PCB and the solar panel with a soldering iron. Do not pull the cables out, this may result in severe damage to the cables or PCB.
- Top tip: for one time at least, you can redo the plastic pins holding the PCB by pressing a semi-hot soldering iron on the plastic.

Step 11 — PCBA



- Most important silicon:
 - Texas instruments [LM358](#) Dual opamp
 - Fairchild Semiconductors [MJD210](#) PNP Transistor
 - NXP [74HC595](#) 8Bit shift register
 - Intivation [SNBST3](#) MPPT Solar charger with integrated MCU (heart of the Waka Waka)
 - [Dsunsolar](#) High efficiency PET film solar panel. Custom made for Intivation.

Step 12 — Pry out the solar panel



- Use a flat object like a bank card to avoid bending the solar panel.
- This Waka Waka has been opened up previously to this teardown. Since the solar panel was originally glued in place, the solar panel was re-attached using double sided tape. When putting your Waka Waka back together, you could either choose glue or double sided tape. Both work fine.

To reassemble your device, follow these instructions in reverse order.